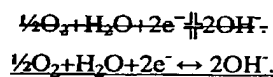


Appl. No. 10/048,082
 Atty. Docket No. 7691
 Amdt. dated July 22, 2004
 Amendment After Allowance
 Customer No. 27752

AMENDMENTS TO THE SPECIFICATION

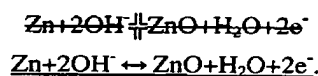
Please replace the paragraph beginning on page 2, line 25, with the following amended paragraph:

In a metal-air battery, oxygen, through a series of reactions, reacts with the metal in the cell producing electrical current. In a zinc-air cell, for example, oxygen enables a charge/discharge reaction at the cathode (positive electrode):



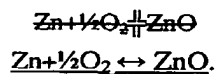
Please replace the paragraph beginning on page 2, line 29, with the following amended paragraph:

Meanwhile, a charge/discharge reaction occurs at the anode (negative electrode):



Please replace the paragraph beginning on page 3, line 1, with the following amended paragraph:

Hence, the zinc-air cell has an overall reaction:



Please replace the paragraph beginning on page 15, line 13, with the following amended paragraph:

Figure 18 shows a cross-section of an exemplary fluid-breathing voltaic battery 75 having a container 76 and at least one voltaic cell 78 disposed within container 76. Container 76 may have a cylindrical shape as shown, a prismatic shape, or even a flat round shape (i.e., a button cell). A fluid exchange system for battery 75 includes at least one microvalve 100 of the present invention and a controller 104 electrically connected thereto to control the flow of fluid in battery 75. It will be

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understood that controller 104 is preferably like that described in a patent application United States Patent No. 6,074,775 entitled "Battery Having a Built-in Controller," ~~filed on April 2, 1998 and having Serial No. 09/054,012~~, which is hereby incorporated by reference. Microvalve 100 may be located adjacent a top portion of an air path 82 in battery 75. Microvalve 100 is retained in position by a valve seat 87 (which also preferably includes a portion for crimping a top seal 114) and preferably has a hydrophobic layer 88 (e.g., polytetrafluoroethylene or polypropylene) located between it and openings 84 in a top metal cover 86 to diffuse air entering path 82. A plurality of openings 84 are preferably spaced circumferentially in top metal cover 86, in such quantities and size as needed for a desired air flow into battery 75. ~~One exemplary embodiment provides openings 84 having a size of approximately _____.~~

Please replace the paragraph beginning on page 18, line 17, with the following amended paragraph:

Controller 104 may also be used to perform other functions to further increase the operation efficiency and/or safety of one or more electrochemical cells in addition to controlling fluid flow into and/or out of one or more electrochemical cells. Examples of operations that may be performed by controller 104 include: using a DC/DC converter to extend the service run time of the battery; controlling a charge cycle of the electrochemical cell by directly monitoring the electrochemical properties of that particular cell; providing a safety disconnect in the event of overheating, inverse polarity, short-circuit, over-pressure, overcharge, over-discharge or excessive hydrogen generation; and, monitoring the state of charge of that particular electrochemical cell to provide this information to the user, the device, or for quality assurance purposes. Functions such as these are described in detail in ~~co-pending~~ United States Patent Application Nos. 09/054,012 6,074,775 and 09/054,087 6,163,131, each entitled "Battery Having a Built-in Controller" ~~and filed on April 2, 1998~~, which are both incorporated by reference in this application.